

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER

200456US2XPCT

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

09/719537

INTERNATIONAL APPLICATION NO.

PCT/FR00/00899

INTERNATIONAL FILING DATE

07 April 2000

PRIORITY DATE CLAIMED

16 April 1999

TITLE OF INVENTION

UNIVERSAL TOOL FOR SUPERVISING AND DRIVING AUTOMATONS

APPLICANT(S) FOR DO/EO/US

Andre CHOVIN, et al. ✓

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☐ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ A copy of the International Search Report (PCT/ISA/210).
8. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
10. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 13 to 18 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
A **SECOND** or **SUBSEQUENT** preliminary amendment.
16. ☐ A substitute specification.
17. ☐ A change of power of attorney and/or address letter.
18. ☐ Certificate of Mailing by Express Mail
19. ☒ Other items or information:

Request for Consideration of Documents Cited in International Search Report

Notice of Priority

PCT/IB/308

Drawings (1 sheet)

U.S. APPLICATION NO. **09/771953**INTERNATIONAL APPLICATION NO.
PCT/R00/00899ATTORNEY'S DOCKET NUMBER
200456US2XPCT

20. The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

- ☒ Search Report has been prepared by the EPO or JPO \$860.00
- ☒ International preliminary examination fee paid to USPTO (37 CFR 1.482) \$690.00
- ☐ No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) \$710.00
- ☐ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$1000.00
- ☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) \$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =**\$860.00**Surcharge of **\$130.00** for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492 (e)).☐ 20 ☐ 30**\$0.00**

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE
Total claims	4 - 20 =	0	x \$18.00
Independent claims	1 - 3 =	0	x \$80.00

\$0.00**\$0.00**

Multiple Dependent Claims (check if applicable).

☐**\$0.00****TOTAL OF ABOVE CALCULATIONS =****\$860.00**

Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable).

☐**\$0.00****SUBTOTAL =****\$860.00**Processing fee of **\$130.00** for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492 (f)).☐ 20 ☐ 30

+

\$0.00**TOTAL NATIONAL FEE =****\$860.00**

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).

☐**\$0.00****TOTAL FEES ENCLOSED =****\$860.00**Amount to be:
refunded
charged

\$

\$

- ☒ A check in the amount of **\$860.00** to cover the above fees is enclosed.
- ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees.
A duplicate copy of this sheet is enclosed.
- ☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. **15-0030** A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

**22850**
Surinder Sachar
Registration No. 34,423

SIGNATURE

Marvin J. Spivak

NAME

24,913

REGISTRATION NUMBER

DATE

Dec. 18 2000

200456US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
ANDRE CHOVIN ET AL : ATTN: APPLICATION DIVISION
SERIAL NO: NEW APPLICATION :
(Based on PCT/FR00/00899)
FILED: HEREWITH :
FOR: UNIVERSAL TOOL FOR :
SUPERVISING AND DRIVING
AUTOMATONS

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Prior to a first examination on the merits, please amend the above-identified
application as follows:

IN THE SPECIFICATION

Page 1, before the title, insert --TITLE OF THE INVENTION--;

between lines 1 and 2, insert:

--BACKGROUND OF THE INVENTION

Field of the Invention--;

between lines 3 and 4, insert --Discussion of the Background--;

between lines 13 and 14, insert:

--SUMMARY OF THE INVENTION--;

between lines 25 and 26, insert:

--BRIEF DESCRIPTION OF THE FIGURE--;

between lines 29 and 30, insert:

--DESCRIPTION OF THE PREFERRED EMBODIMENTS--.

IN THE CLAIMS

Please amend the claims as follows:

Claim 1, line 1, delete "(2)";

line 2, delete "(8)";

line 4, delete "(4)";

line 5, delete "(3)";

line 8, delete "(6)"; same line, delete "(5)".

Claim 3, line 1, replace "one of the above claims" with --claim 1--.

Please add new Claim 4 as follows:

--4. System according to claim 2, characterized by the fact that with the spreadsheet program being dynamically associated with at least one other program, the system comprises means for the processing of the data coming from the automatons by this other program.--

IN THE ABSTRACT

Please delete the original Abstract sheet page 5 in its entirety and insert therefor:

--ABSTRACT OF THE DISCLOSURE

A tool which is entrusted with supervising and driving automatons that are "smart"; namely the tool can communicate with a microcomputer. This tool has a microcomputer, with a spreadsheet program connected through a driver, an operating system of the

microcomputer, and a connection line to the automatons. The driver emulates the proprietary language for controlling and supervising the automatons.--

REMARKS

Favorable consideration of this application, as presently amended, is respectfully requested.

The present preliminary amendment is submitted to place the above-identified application in more proper format under United States practice. By the present preliminary amendment the specification has been amended to include suggested headings. The claims have been amended to no longer recite any reference numerals or multiple dependencies. The subject matter of the cancelled multiple dependency is also set forth in new dependent Claim 4. A new Abstract believed to be in more proper format under United States practice is also submitted herein.

The present application is believed to be in condition for a full and thorough examination on the merits. An early and favorable consideration of the present application is hereby respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599
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UNIVERSAL TOOL FOR SUPERVISING AND DRIVING AUTOMATONS

The present invention relates to a universal tool for supervising and driving automatons.

The automatons in question here may be small micro-automatons (a few centimeters in size) as well as bigger automatons and these devices can not only drive various machines (motors, activators, robots, etc.) but also supervise sensors.

Known automaton control devices may be general-purpose supervisors that are complicated, costly and difficult to carry from one type of platform to another and/or difficult to customize, or else they may be dialog and parameterizing interfaces, dedicated to a specific product with limited, fixed and closed-ended functions, which are also difficult to carry and customize.

An object of the present invention is a tool for the supervision and driving of automatons that is provided with many powerful functions and is simple, economical and capable of being carried on different platforms, especially on PCs.

The tool according to the invention is a universal tool for supervising and driving automatons by means of a microcomputer connected to these automatons which are provided with their data-exchange functions and it comprises an automaton interface driver exchanging commands and/or data with a spreadsheet program executed on the microcomputer, this driver furthermore exchanging data and/or commands with at least one automaton through the communications means of the microcomputer and its operating system.

The present invention will be understood more clearly from the following detailed description of an embodiment given as a non-restrictive example with reference to the appended drawing, wherein the single figure is a block diagram of a tool according to the invention.

The tool 1 of the single figure in the drawing comprises a microcomputer 2, for example of the PC type. One of the programs with which this microcomputer is equipped is a spreadsheet program 3, for example the EXCEL spreadsheet program. This spreadsheet program 3 sends commands and/or data elements to an automaton interface driver 4 and receives data therefrom. This driver 4 communicates with the operating

system 5 of the microcomputer. The system 5 has access to at least one communications line 6 connected to an input-output port 7 of the microcomputer. This communications line 6 may be a serial or parallel type of line, or it may be a bus. The line 6 is connected to a set 8 of automatons.

The term "automaton" herein designates "smart" automated components, namely components provided at least with means by which they can communicate with the microcomputer 2 through the communications line 6 in at least one direction, to receive commands and/or data and/or to transmit data (such as measured physical variables in the case of sensors, or positions in the case of mobile components, or states in the case of selector switches for example). Advantageously, these components have a memory in which data can be stored on their characteristics or their operation. Examples of such components are activators, sensors, servo valves, relays, programmable automatons or remote input/output units, namely units distinct from the microcomputer and automation components connected to the line 6 and comprising at least one analog-digital converter and/or one digital-analog converter as well as a multiplexer and/or a demultiplexer or again program automatons with the same functions as the remote inputs/output units with, moreover, the capacity to perform automation sequences on their own.

The driver 4 manages and optimizes the dialog between the microcomputer 2 and the automatons 8 through the operating system 5. It emulates the proprietary language for the control and/or dialog and/or parameterizing and/or program downloading functions of the automatons 8. It organizes the commands coming from the spreadsheet program in the form of messages in order to send them to the automatons 8 and it extracts data from the messages that reach the automatons in order to transmit them in appropriate form to the program. These messages naturally must be compatible with the transmission characteristics on the line 6.

The making of the driver 4 will be evident to those skilled in the art with knowledge of this proprietary language and the programming of the microcomputer.

The various functions of the tool of the invention are the following:

It changes the state of any automaton of the unit 8, initializes, starts, stops, parameterizes, tests any automaton, downloads a program into

any automaton, etc.).

As the case may be, it can modify one or more specific parameters of at least one of the automatons 8 (for example a parameter such as rotation speed in the case of a motor, etc.).

It enables the iterative reading, for a defined period (the sampling period compatible with the characteristics of the operating system 5) of a set of data arranged in an order (generally the rising order) in a column or in a line of the program 3 at the rate of one sample per cell.

It can be used to obtain a variation in time of a graphic attribute (size, color, position, plane, etc.) of a drawing, an image, a film or any object that can be drawn or imported into the spreadsheet program, as a function of the digital value or the state of a data element read in the memories of an automaton.

It can be used to associate an action with a graphic object or a dialog interface of the spreadsheet program by modifying a data element implanted in the memory of the automaton.

Thus, the user can have available a set of examples of actuation and dialogs that can be processed with the spreadsheet program in a system of development such as Visual Basic, Visual C, etc. He can then build a customized mini-supervisor while using another well-known and widely used tool such as the spreadsheet program. Furthermore, if the program is dynamically associated with at least one other program, for example if it forms part of an integrated program such as OFFICE, the user can use this other program to process, namely store, present, analyze and classify all data or combinations of data coming from the automatons.

Naturally, the driver 4 is designed in such a way that it does not disturb the dynamic links between the spreadsheet program and the other programs associated with it.

CLAIMS

1. System comprising a microcomputer (2) connected to these automatons (8) which are provided with their own data-exchange functions, the automatons being connected to sensors and/or actuators, characterized in that the microcomputer comprises an automaton interface driver (4) exchanging commands and/or data with a spreadsheet program (3) executed on the microcomputer, this driver furthermore exchanging data and/or commands with at least one automaton through the communications means (6) of the microcomputer and its operating system (5).

2. System according to claim 1, characterized by the fact that the automatons have remote inputs/outputs, and that the sensors and/or actuators connected to the automatons are « smart ».

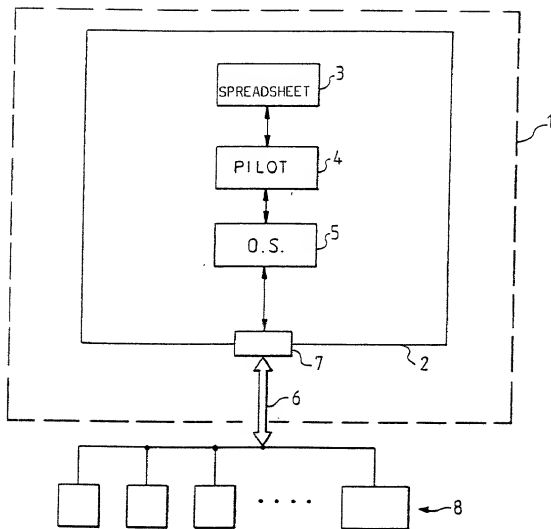
3. System according to one of the above claims, characterized by the fact that with the spreadsheet program being dynamically associated with at least one other program, the system comprises means for the processing of the data coming from the automatons by this other program.

ABSTRACT
UNIVERSAL TOOL FOR SUPERVISING AND DRIVING AUTOMATONS

The tool of the invention is entrusted with supervising and driving automats that are « smart », namely provided with means by which they can communicate with a microcomputer. This tool has a microcomputer (2), whose spreadsheet program (3) is connected through a driver (4), the operating system of the microcomputer and a connection line (6) to the automats. The driver emulates the proprietary language for controlling and supervising the automats.

SINGLE FIGURE.





Declaration and Power of Attorney for Patent Application

Déclaration et Pouvoirs pour Demande de Brevet

French Language Declaration

En tant l'inventeur nommé ci-après, je déclare par le présent acte que

As a below named inventor, I hereby declare that:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

My residence, post office address and citizenship are as stated next to my name.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

UNIVERSAL TOOL FOR SUPERVISING AND

DRIVING AUTOMATONS

et dont la description est fournie ci-joint à moins

the specification of which

☐ ci-joint

☐ is attached hereto.

☐ a été déposée le _____

☒ was filed on APRIL 7, 2000 ✓

sous le numéro de demande des Etats-Unis ou le numéro de demande international PCT

as United States Application Number or PCT International Application Number

_____ et modifiée le

PCT/FR00/00899 and was amended on

_____ (le cas échéant).

_____ (if applicable)

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 156 du Code fédéral des réglementations

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 156.

French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée

Prior Foreign Application(s)
Demande(s) de brevet antérieure(s) dans un autre pays

99 04821 ✓ FRANCE ✓
(Number) (Country)
(Numéro) (Pays)

(Number) (Country)
(Numéro) (Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 156 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande.

PCT/FR00/00899 ✓ 7 APRIL 2000 ✓
(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique, et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed

Priority claimed
Droit de priorité
revendiqué

16 APRIL 1999 ✓ ☒ ☐
(Day/Month/Year Filed) Yes No
(Jour/Mois/Année de dépôt) Oui Non

(Day/Month/Year Filed) ☐ ☐
(Jour/Mois/Année de dépôt) Yes No
Oui Non

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application

(Status) (patented, pending, abandoned)
(Statut) (breveté, en cours d'examen, abandonné)

(Status) (patented, pending, abandoned)
(Statut) (breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

French Language Declaration

POUVOIRS: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

Norman F. Oblon, Reg. No. 24,618; Marvin J. Spivak, Reg. No. 24,913; C. Irvin McClelland, Reg. No. 21,124; Gregory J. Maier, Reg. No. 25,599; Arthur I. Neustadt, Reg. No. 24,854; Richard D. Kelly, Reg. No. 27,757; James D. Hamilton, Reg. No. 28,421; Eckhard H. Kuesters, Reg. No. 28,870; Robert T. Pous, Reg. No. 29,099; Charles L. Gholz, Reg. No. 26,395; Vincent J. Sunderdick, Reg. No. 29,004; William E. Beaumont, Reg. No. 30,996; Steven B. Kelber, Reg. No. 30,073; Robert F. Gruse, Reg. No. 27,295; Jean-Paul Lavalleye, Reg. No. 31,451; Stephen G. Baxter, Reg. No. 32,884; Martin M. Zoltick, Reg. No. 35,745; Robert W. Hahl, Reg. No. 33,893; Richard L. Treanor, Reg. No. 36,379; Steven P. Wehrhouch, Reg. No. 32,829; John T. Goolkasian, Reg. No. 26,142; Marc R. Labgold, Reg. No. 34,651; William J. Healey, Reg. No. 36,160; Richard L. Chinn, Reg. No. 34,305; Steven E. Lipman, Reg. No. 30,011; Carl E. Schlier, Reg. No. 34,426; James J. Kulbaski, Reg. No. 34,648; Catherine B. Richardson, Reg. No. 39,007; Richard A. Neifeld, Reg. No. 35,299; and J. Derek Mason, Reg. No. 35,270, with full powers of substitution and revocation.

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(703) 413-3000

Nom complet de l'unique ou premier inventeur		Full name of sole or first inventor	
Signature de l'inventeur		Inventor's signature	
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Nom complet du second co-inventeur, le cas échéant		Full name of second joint inventor, if any	
Signature de l'inventeur		Second inventor's signature	
Date		November 20, 2000	Date
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Nationalité		Citizenship	FRX.
Adresse Postale		French	
		Post Office Address	
		8, square Monte Cristo	
		78160 MARLY LE ROI	FRANCE

(Fournir les mêmes renseignements et la signature de tout co-inventeur supplémentaire.)

(Supply similar information and signature for third and subsequent joint inventors.)